

COMPOSITION FOR WATER-BASED COATING MATERIAL AND INK

Patent Number: JP7048538
Publication date: 1995-02-21
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Applicant(s): MITSUBISHI RAYON CO LTD
Requested Patent: JP7048538
Application Number: JP19930193627 19930804
Priority Number(s):
IPC Classification: C09D133/12; C09D5/02; C09D11/10; C09D175/04
EC Classification:
Equivalents: JP2882733B2

Abstract

PURPOSE: To obtain the composition which can form a tough coating film by neutralizing a vinyl polymer made from methyl methacrylate, an acid-group- containing compound, etc., dissolving the neutralized polymer in water and mixing the obtained aqueous solution with a specified aqueous urethane polymer dispersion.

CONSTITUTION: A mixture comprising 30-90wt.% methyl methacrylate, 0-30wt.% aromatic vinyl compound especially styrene, 4-20wt.% acid-group-containing vinyl compound especially (meth)acrylic acid and 0-66wt.% other vinyl monomers such as alkyl methacrylate is suspension-polymerized to obtain a vinyl polymer having a Tg of 10-150 deg.C, a specified molecular weight and an acid value of 35-200mgKOH/g, this polymer is neutralized, and the neutralized polymer is dissolved in water to obtain an aqueous solution (A). This solution A is combined with an aqueous urethane polymer dispersion obtained by neutralizing a urethane prepolymer made from an aliphatic or alicyclic diisocyanate, a polyether or an ester diol of a specified molecular weight and an acid-group- containing diol with a tert. amine, and dispersing the neutralized polymer in water in an A/B weight ratio of 5/95 to 95/5 (in terms of the solid content) to obtain the composition for use on a plastic film.

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- EPODOC / EPO

PN - JP7048538 A 19950221
PD - 1995-02-21
PR - JP19930193627 19930804
OPD - 1993-08-04
TI - COMPOSITION FOR WATER-BASED COATING MATERIAL AND INK
IN - MORIYA MAKOTO; NISHIMURA SEIJI
PA - MITSUBISHI RAYON CO
IC - C09D133/12 ; C09D5/02 ; C09D11/10 ; C09D175/04

- WPI / DERWENT

TI - Aq coating and compsn for ink - is mixt of aq soln of vinyl polymer, with aq dispersion of urethane type polymer

PR - JP19930193627 19930804

PN - JP7048538 A 19950221 DW199517 C09D133/12 009pp

- JP2882733B2 B2 19990412 DW199920 C09D133/12 008pp

PA - (MITR) MITSUBISHI RAYON CO LTD

IC - C09D5/00 ; C09D5/02 ; C09D11/10 ; C09D133/12 ; C09D175/04

AB - J07048538 An aq. coating and compsn. for ink are prepd. by mixing (A) an aq. soln. of vinyl type polymer which is prepd. by neutralising (I) vinyl type polymer with a base and by dissolving in water, with (B) an aq. dispersion of (II) urethane type polymer. Polymer (I) comprises 30-90 wt.% of methyl methacrylate, 0-30 wt.% of an aromatic vinyl cpd., 4-20 wt.% of an acid gp.-contg. vinyl cpd. and 0-66 wt.% of copolymerising other vinyl type monomer and has secondary transition pt. (Tg-2) of 10-150 deg.C, a wt. average mol.wt. (Mw) of 6000-30000 and an acid value of 35-200 mgKOH/g. Polymer (II) is prepd. by elongating urethane prepolymer with water or amine after or on neutralising with a tert. amine and by dispersing in water. The urethane prepolymer comprises an aliphatic or alicyclic diisocyanate, polyetherdiol or polyester diol having Mn (number average mol.wt.) of 500-5000 and an acid gp.-contg. diol in an equiv. ratio of NCO/OH, 1.1-1.9.

- ADVANTAGE - The aq. coating compsn. has good pigment-dispersing properties but does not produce an insoluble agglomerates on applying and forms a strong coated film having good adhesiveness to a plastic film.

- (Dwg.0/0)

OPD - 1993-08-04

AN - 1995-126277 [17]

- PAJ / JPO

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aqueous solution (A). The solution A is combined with an aqueous urethane polymer dispersion obtained by neutralizing a urethane prepolymer made from an aliphatic or alicyclic diisocyanate, a polyether or an ester diol of a specified molecular weight and an acid-group- containing diol with a tert. amine, and dispersing the neutralized polymer in water in an A/B weight ratio of 5/95 to 95/5 (in terms of the solid content) to obtain the composition for use on a plastic film.

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